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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kunio Gobara

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EXAMINER

NICKERSON, JEFFREY L

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,588	Applicant(s) GOBARA ET AL.	
	Examiner JEFFREY NICKERSON	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 89-126 and 128-137 is/are pending in the application.
- 4a) Of the above claim(s) 94-112 and 117-125 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 89-93, 113-116, 126 and 128-137 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Application No. 10/576,588 filed nationally on 21 April 2006 with a domestic priority dating back to 29 October 2004. The request for continued examination presented on 14 April 2011, which amends claims 89, 113, 126, 129, 131-132, 134-135, and 137, and presents arguments, is hereby acknowledged. Claims 89-126, 128-137 are currently pending; claims 94-112 and 117-125 remain withdrawn from consideration; claims 89-93, 113-116, 126, 128-137 are subject to examination.

Double Patenting

2. Applicant's arguments, filed in the response dated 17 March 2011, regarding the double patenting rejections have been fully considered. All outstanding provisional double patenting rejections are being held in abeyance.

35 USC § 102/103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Response to Arguments

4. Applicant's claim amendments and arguments, filed in the response dated 17 March 2011, regarding the rejections under 35 USC 102 have been fully considered and are at least persuasive-in-part. All outstanding rejections under 35 USC 102 are hereby withdrawn. However, new rejections may appear below.

Claim Rejections

5. Claims 89-93, 113-116, 126, and 128-137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al (US 2004/0139228 A1, hereinafter Takeda01); and in further view of Takeda ("Symmetric NAT Traversal using STUN", June 2003; hereinafter Takeda02).

Regarding claim 89, the Takeda01 system teaches a communication system (Figure 16A-16D) comprising a first information processor (host/cam 629), a second information processor (client/browser 630), a first communication control unit for controlling the communication of the first information processor (NAT 1602), a second communication control unit for controlling the communication of the second information processor (NAT 1604), and a server for establishing communication between the first and second information processors (STUN server 622) (Takeda01: Figures 16A-16D); wherein A first information processor (Figure 16A, item 629) includes:

a reference port receiver for receiving reference port information showing a position of a reference port of the second communication control unit, the reference port

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being a reference for transmission of a bubble packet transmitted for leaving a transmission record in the first communication unit (Takeda01: Figure 16A, 1608; [0193] server 629 receives NAT address/port pair mapping and NAT type of the client 630 via STUN server);

a bubble packet transmitter for transmitting the bubble packet a destination bubble packet transmitting port of the second communication control unit via the first communication control unit in accordance with the reference port information (Takeda01: Figure 16B, step 1610-1616 breakout packets; [0194]);

a detection packet transmitter for transmitting a port detection packet to the server in order to detect a position of a bubble packet transmitting port of the first communication control unit, which is used in transmission of the bubble packet (Takeda01: Figure 16A, step 1607A; [0192]-[0194] server 629 sends packets to determine NAT address/port pair and NAT type, including port delta);

a reply packet receiver for receiving a reply packet transmitted from the second information processor via the second communication control unit to the bubble packet transmitting port (Takeda01: Figure 16C, 1630-1636; [0200]-[0202] for receiving back reply);

a second information processor (Figure 16A, item 630) includes:

a reference port detection packet transmitter for transmitting a reference port detection packet for detecting the position of the reference port (Takeda01: Figure 16A, 1607B; [0192]-[0193] client 630 sends packets to determine NAT address/port pair mapping and NAT type, including port delta);

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a bubble packet transmitting port information receiver for receiving bubble packet transmitting port information showing the position of the bubble packet transmitting port (Takeda01: Figure 16A, 1610; [0192]-[0193] client 630 receives NAT address/port pair mapping and NAT type of the server 629 via STUN server);

a reply packet transmitter for transmitting a reply packet to the bubble packet transmitting port which is shown by the bubble packet transmitting port information via a reply packet transmitting port of the second communication control unit, the reply packet transmitting port including the destination bubble packet transmitting port (Takeda01: Figure 16C, 1630-1634; [0200]-[0202] for sending breakout reply); and

A server (Figure 15a, item 622) includes:

a reference port detector which receives the reference port detection packet transmitted from the second information processor for detecting the position of the reference port in accordance with the reference port detection packet (Takeda01: Figure 16A, 1607B; [0192]-[0193] STUN server receives packet from client 630 and identifies NAT type and port/address pair of client 630); and

a reference port transmitter for transmitting reference port information showing the position of the reference port detected by the reference port detector to the first information processor (Takeda01: Figure 16A, 1608; [0192]-[0193] STUN server sends server 629 the NAT type and address/port pair of client 630);

a bubble packet transmitting port detector which receives the port detection packet transmitted from the first information processor for detecting the position of the bubble packet transmitting port in accordance with the port detection packet (Takeda01:

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Figure 16A, 1607A; [0192]-[0193] STUN server receives packet from server 629 and identifies NAT type and port/address pair of server 629);

a bubble packet transmitting port transmitter for transmitting the bubble packet transmitting port information to the second information processor (Takeda01: Figure 16A, 1610; [0192]-[0193] STUN server sends client 630 the NAT type and address/port pair of server 629); and

wherein the reply packet transmitter transmits the reply packet to the bubble packet transmitting port by using N different ports (N being an integer of 2 or more) (Takeda01: Figure 16C; [0200]-[0202] provides for use of ports 49154 (NAT 1604) and 50014 (NAT 1604)).

While Takeda01 teaches that the reply packets may be in plural (Takeda01: Figure 16c; items 1630-1636; [0199]), he fails to explicitly recite a plurality of packets from a plurality of ports of the communication control unit, to a single port.

Takeda02, in a similar field of endeavor, teaches a plurality of packets from a plurality of ports of the communication control unit, to a single port (Takeda02: section 6.4, TRY listing, TRY 1 and TRY 5, for example).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Takeda02 for sending multiple packets from multiple ports of the NAT to a single address/port pair. The teachings of Takeda02, when implemented in the Takeda02 system, will allow one of ordinary skill in the art to have for each endpoint, for each N ports, send N packets to N predicted breakout ports. One of ordinary skill in the art would be motivated to utilize the teachings of Takeda02 in

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the Takeda01 system in order to completely ensure that a breakout failure does not occur because, for instance, multiple applications behind the same NAT are attempting breakouts simultaneously.

Regarding claim 90, the Takeda01/Takeda02 system teaches wherein the detection packet transmitter transmits the port detection packet in the first information processor before or after the bubble packet transmitter transmits the bubble packet (Takeda01: Figure 16A before Figure 16B; See also [0192]-[0194]).

Regarding claim 91, the Takeda01/Takeda02 system teaches wherein the bubble packet transmitting port detector detects the position of the bubble packet transmitting port by using the port number differential of the first communication control unit in the server (Takeda01: [0198]-[0200] provides NAT 1602's delta can be used to predict the breakout packet transmitting port).

Regarding claim 92, the Takeda01/Takeda02 system teaches wherein the first information processor further includes:

a port number differential detection packet transmitter for transmitting a port number differential detection packet for detecting the port number differential in the first communication control unit via the first communication control unit (Takeda01: Figure 16A, 1607A; [0192] provides the server 629 sends the STUN server its NAT info, including port delta);

and wherein the server further includes:

a port number differential detector which receives the port number differential detection packet for detecting the port number differential of the first communication control unit in accordance with the port number differential detection packet (Takeda01: Figure 16A, 1607A; [0192] provides the STUN server receives the server 629 NAT info packet, including port delta); and

wherein the bubble packet transmitting port detector detects the position of the bubble packet transmitting port by using the port number differential detected by the port number differential detector (Takeda01: [0192]-[0195] provides the STUN server can predict the break out port).

Regarding claim 93, this claim contains limitations found within that of claim 92 and the same rationale of rejection is used, where applicable.

Regarding claim 113, this server claim contains limitations found within that of claim 89, and the same rationale of rejection is used, where applicable.

Regarding claim 114, this server claim contains limitations found within that of claim 91, and the same rationale of rejection is used, where applicable.

Regarding claim 115, this server claim contains limitations found within that of claim 92, and the same rationale of rejection is used, where applicable.

Regarding claim 116, this server claim contains limitations found within that of claim 92, and the same rationale of rejection is used, where applicable.

Regarding claim 126, this server method claim contains limitations found within that of claim 89, and the same rationale of rejection is used, where applicable.

Regarding claim 128, the Takeda01/Takeda02 system teaches further comprising:

- a detecting port detecting step for detecting the port position of the communication control unit through which the port detection packet has passed in accordance with the port detection packet (Takeda01: Figure 16A, 1607B; [0193] provides the STUN server detects the NAT type and address/port information, including delta, of client 630); and

- a detecting port information transmitting step for transmitting detecting port information showing the port position detected in the detecting port detecting step (Takeda01: Figure 16A, 1608; [0193], STUN server relays the NAT info of client 630 to server 629).

Regarding claim 129, the Takeda01/Takeda02 system teaches wherein the plurality of reply packet transmitting ports are newly assigned in the second communication control unit when transmitting the reply packet (Takeda01: Figures 16B-16C; [0194]-[0202] provides the NAT 1604 has not prior sent a packet to port 50014 from port 49154).

Regarding claim 130, the Takeda01/Takeda02 system teaches wherein the bubble packet transmitter transmits the bubble packet to a port which is assigned based on the reference port and a specified number L (L being an integer) (Takeda01: Figure 16B; [0194]-[0196] provides it users reference plus the delta for target ports).

Regarding claim 131, the Takeda01/Takeda02 system teaches wherein a number of the plurality of reply packet transmitting ports is greater than or equal to the number L (Takeda01: [0192] provides the delta is 2; Takeda02: section 6.4, TRY listing TRYs 1 and 5).

Regarding claim 132, this server method claim contains limitations found within that of claim 129, and the same rationale of rejection is used, where applicable.

Regarding claim 133, this server method claim contains limitations found within that of claim 130, and the same rationale of rejection is used, where applicable.

Regarding claim 134, this server method claim contains limitations found within that of claim 131, and the same rationale of rejection is used, where applicable.

Regarding claim 135, this server method claim contains limitations found within that of claim 129, and the same rationale of rejection is used, where applicable.

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Regarding claim 136, this server method claim contains limitations found within that of claim 130, and the same rationale of rejection is used, where applicable.

Regarding claim 137, this server method claim contains limitations found within that of claim 131, and the same rationale of rejection is used, where applicable.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 9:00am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey Nickerson/
Examiner, Art Unit 2442